

Response to Applicant's Amendment

1. The amendment filed July 29, 2004, has been entered and made of record. Claims 1-8, 12-23 and 30 are cancelled. Claims 31-49 have been added. Claims 9-11, 24-29, 31-49 are pending.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard Elias (Reg. No. 48,806) on November 10, 2004.

The application has been amended as follows:

In the claims:

In claim 27, at line 11, change "line" to "curve".

In claim 27, at line 15, change "line" to "curve".

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

Claim 9, which as indicated as containing allowable subject matter in the previous Office Action, has been rewritten in independent form. Although the claim does not include the intervening claims as specified by the previous Office Action, it is

nevertheless, allowable. Claim 9 requires that the transform includes differencing adjacent values. This is neither disclosed nor suggested by the prior art of record. Claim 25 requires a similar limitation. Claims 10-11, 24, 31-49 depend from claim 9. Claim 26 depends from claim 25.

Claim 27 has been amended to include the subject matter of original claim 30, which was indicated as containing allowable subject matter in the previous Office Action. Claim 27 includes a specific definition for the sum $Q_m(y)$. This is neither disclosed nor suggested by the prior art of record. Claims 28-29 depend from claim 27.

The closest prior art are considered to be the article by Tuytelaars et al., U.S. Patent 6,400,848 to Gallagher and U.S. Patent 6,778,699 to Gallagher. Tuytelaars teaches a transform which transforms the image into a coordinate space representative of directional statistical characteristics in the image, but does not teach that the transform includes differencing adjacent values. U.S. Patent 6,400,848 to Gallagher teaches creating an edge gradient map, which does difference adjacent values (e.g., column 3, starting at line 9). However, this does not transform the image into a coordinate space representative of directional statistical characteristic in the image. The patent does teach a transform (i.e., the Hough transform) which transforms the edge map (not the image itself), but this does not itself difference adjacent values. U.S. patent 6,778,699 to Gallagher teaches differencing adjacent values as well via gradients, to detect edges. In the claimed invention, by using statistical characteristics in the image to determine the pencil, the perspective can be estimated based on "soft"

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features of the image, rather than relying on the presence of detectable "hard" edges in the image, as taught by the Gallagher patents.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jon Chang
Primary Examiner
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Jon Chang
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